

Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-14 (cancelled).

Claim 15 (currently amended): A road antenna apparatus comprising:

a road antenna disposed above a road and establishing radio communication with an on-vehicle device mounted in a vehicle, via a transmission wave;
a Doppler signal processor which detects the traveling direction of the vehicle on the basis of a change arising in the frequency of a reflected wave due to the Doppler effect, the reflected wave being formed when the transmission wave emitted from the road antenna is reflected by the vehicle; and
control means which restricts ~~allows~~ establishment of communication with the vehicle traveling in a predetermined ~~redetermined~~ direction.

Claim 16 (original): The road antenna apparatus as described in claim 15, further comprising: reflected wave extraction means which receives the reflected wave and a receipt wave emitted from the on-vehicle device, the reflected wave extraction means extracts only the reflected wave.

Claims 17-26 (cancelled).

Claim 27 (new): A road antenna apparatus comprising:
a road antenna disposed above a road and establishing
radio communication, via a transmission wave,
with an on-vehicle device mounted in a vehicle;
reflected wave extraction means which receives the
reflected wave and a receipt wave emitted from
the on-vehicle device and extracts the reflected
wave;

a Doppler signal processor which detects the traveling
direction of the vehicle on the basis of a change
arising in the frequency of the reflected wave
due to the Doppler effect, the reflected wave
being formed when the transmission wave emitted
from the road antenna is reflected by the
vehicle;

control means which allows establishment of
communication with the vehicle when the detected
direction of the vehicle is a predetermined
direction.

Claim 28. (new) The apparatus of claim 27, wherein the
control means restricts the establishment of communication
with the vehicle traveling in a first direction when the
detected direction of the vehicle is a second direction
opposed to the first direction.